



**1995 Technical Review
Summary**
by Selma al-Radi

Restoration of the Ichan-Kala

Khiva, Uzbekistan
830.UZB



Architects
*Institute of Restoration, Tashkent
and Restoration Office, Urgench*

Client
Governorate of Khorezem

Completed
1980 and ongoing

The old town of Khiva in which is sited the Ichan-Kala (a medieval fortress with palaces, mosques, madrasas, mausoleums, trading places, and hammams) was declared an historic reserve in 1967. Since then it has been the subject of a restoration campaign. The 10th Century town, when Khiva was a flourishing caravan stop on the route between Gurganch and Merv, was almost completely razed by the Mongols in 1226. The new political capital of the 15th and 16th Centuries was largely destroyed by Nadir Shah of Iran. What we see today is the rebuilt 18th and 19th Century version of the Ichan-Kala. Its splendid monuments, built in the classic style, have been restored to their original pristine state.



Khiva, capital of Khorezm, lies 1000km North-West of Tashkent

Context

Historical background

Khiva is located about 1000 kilometres North-West of Tashkent, the capital of Uzbekistan, and almost 600 kilometres North of Bukhara. The town dates to the middle of the First Millennium BC, according to evidence unearthed by archaeologists who excavated (in) the mound of Kunya Ark. The Ichan-Kala came into being in the 6th Century AD, and was restored many times; the present walls date from the end of the 18th Century. The town became prominent in the 10th Century as a stopover on the route between the Khorezm capital of Gurganch (Konya-Urgench) and Merv in Iran. It

continued to flourish under the Khorezm Shahs during the following centuries. Khiva was almost levelled by Genghis Khan in 1226; only one monument survived the destructive forces of the Mongol hordes. It revived during the 15th and 16th centuries when it became the capital of Khorezm after Gurganch was destroyed by Timur, but was destroyed again by Nadir Shah of Iran in 1740. Khiva re-emerged as a power under the Kungrad Dynasty which united Khorezm under one province. Large-scale rebuilding was carried out, mosques, madrasas, and hammams were lavishly endowed, and the Ichan-Kala's walls were refortified. In 1873, Khiva became a protectorate under Tsarist Russia, but construction continued uninterrupted

under Mohammad Rahim Khan (1864-1910). The Soviets incorporated Khorezm into Uzbekistan, which declared its independence in 1990. The modern town of Urgench, twenty kilometres away, is the capital of Khorezm. Khiva is officially celebrating its 2500th birthday in 1997.

Local architecture

The overall impression of the Ichan-Kala is of brick and adobe with expanses of blue from the glazed tiles of the minarets. The surrounds are also brick-coloured. Monuments are built of brick; only the city walls are made of mud and adobe. The buildings inside the citadel have a low skyline of two or three storeys; only the tall minarets stand out. But the massively high walls of the Ichan-Kala and its interior fortress, the Kunya Ark, add a monumental dimension to the town, both from the outside as well as the inside. The walls and gates have survived, for

the most part. Khiva, which surrounds the Ichan-Kala, is a largely 19th Century walled town, with some concrete high-rises and government buildings dating to the Soviet period.

Climate

Khiva is situated on the plains that edge the Kizilkum Desert and has a dry and arid climate. Summers are hot, with temperatures that can go above 40 degrees Centigrade in July, while winters range from -5 to 20 degrees Centigrade. Winds can be ferocious: cold in winter, and blowing hard sand in summer. The Amu-Darya River flows nearby and supplies water for the town and for irrigation.

Site

Khiva is a small agricultural town of some 45,000 inhabitants. Most industries are located in Urgench, which has a population of 150,000. The Ichan-Kala has been left intact; traffic flows around and outside its walls. A few roads are open for cars belonging to the residents of the Ichan-Kala. Access to the historical core of the Ichan-Kala is by foot; tourists are let off at the western gate, the Ata Darvaza, and encouraged to walk through this "open-air museum".

Topography

Khiva lies on a flat plain and is surrounded by semi-desert lands.

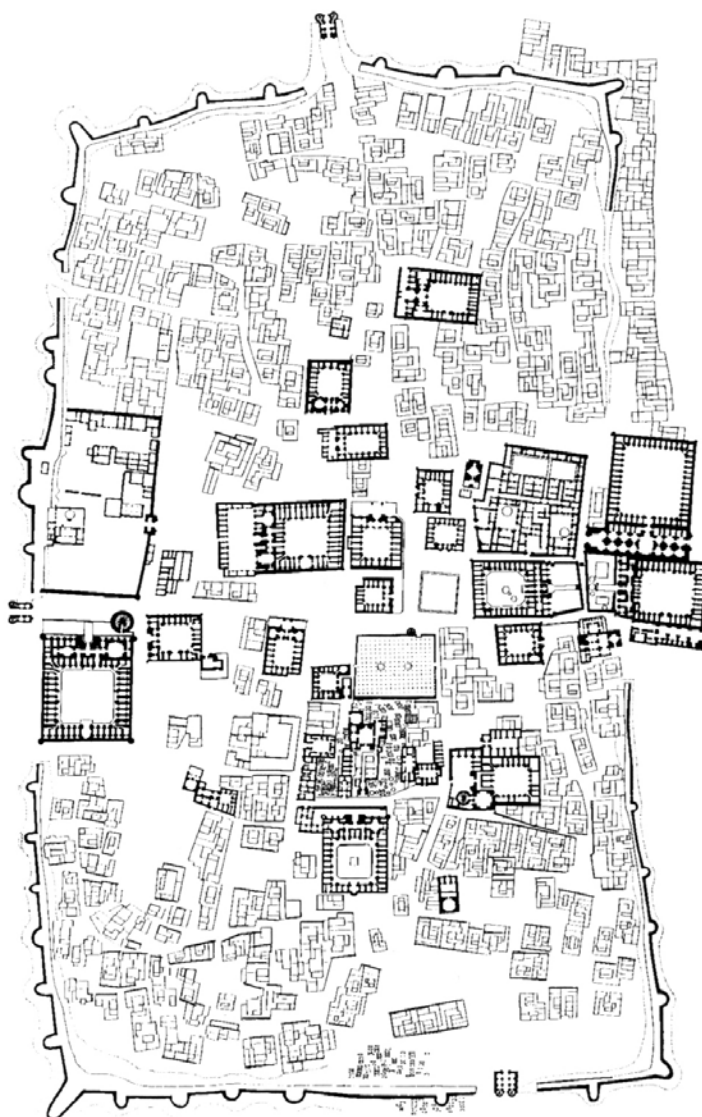
Programme

The restoration programme for the Ichan-Kala began during the late 1960's and early 1970's. The main reason was probably financial, that is, for the development of tourism. The Soviet Union needed the hard currency; upgrading and improving the physical conditions of the old

towns and monuments was necessary to attract tourists. Fewer tourists visit Khiva than Bukhara or Samarqand, some 20,000 per year. The numbers have decreased in the last few years - tourism is not as organised as it was under the USSR. Since independence in 1990, Uzbekistan has been redefining its identity and image, and the preservation and reintegration of its cultural and architectural heritage are an important component of this policy.

General objectives

The objective of the Institute of Restoration of the Ministry of Culture in Tashkent was to revitalise the historic centres of the old towns by restoring, reconstructing or upgrading the monuments. The Ichan-Kala differed from Bukhara in that the whole area within the walls was declared a cultural reserve, to be preserved as a walk-in, open-air museum. In this context, the original



The Ichan-Kala (Inner City) of Khiva built from the 14th century to the 20th century. Aside from the Friday Mosque there are seventeen madrasas among the ensemble of public buildings



Pahlavan Darvaza built here in 1806. Pictured above before restoration and below after restoration.



role of a building was of secondary importance - the look of the whole was what mattered. Detailed drawings and project outlines were made for all the buildings, and included everything from wall-construction methods, protection against earthquakes, and limited adaptive re-use.

Functional requirements

As the buildings were still standing, the details of their briefs varied accordingly. All had to be restored and provided with basic utilities. They had to look architecturally "correct" in style; no new additions were permitted, although toilets and bathrooms were allowed in some buildings. Some madrasas were turned into museums of local crafts.

Description

Building data

The citadel of Ichan-Kala is rectangular in shape and measures 650 by 400 metres (26 hectares), its long axis running in a North to South direction. There are 54 historical monuments within its walls. These include 23 madrasas, 6 mosques, 1 caravanserai, 6 mausoleums, 1 trading dome, 1 working hammam, 290 listed old houses, and other varia that include the Kunya Ark citadel, the city walls and gates, and cemeteries. The monument that greets the visitor on entry into the town is the truncated but impressive Kalta Minar, a tall, fat minaret that is

entirely covered in blue glazed tiles - it is a glorious sight. The Kunya Ark takes up the central portion, its citadel towering over the rest of the town.

The mausoleums are revered throughout Uzbekistan and many are pilgrimage sites. The oldest is that of Seyyid Allaiddin which is dated to 1310; it is the only monument in Khiva that survived the Mongol invasion. The most popular pilgrimage site is the blue-domed Mausoleum of Pahlavan Mahmud, the patron of Khiva - its extravagantly decorated and multi-coloured tiled interior is truly extraordinary. A mosque, madrasa and cemetery are attached to this complex. The Tash-Hawli palace is another visual wonder with its many open and painted courts, harems, and its warrens of small rooms, all decorated in a riot of glazed tiles. The same is true of the palace in the Kunya Ark; it contains huge courts and receiving areas, many painted chambers and, from its highest point, a view over the city that is simply stunning.

But the most extraordinary monument in Khiva is the Djuma Mosque, originally constructed in 936, but largely rebuilt in 1718, and restored between 1983-1986. The mosque is square, 50 x 50 metres, with a flat roof supported by 213 carved wooden columns, of which only 17 are from the 10th Century; 8 others are in a museum in Tashkent. The other columns date from different periods. The wood is black elm, *kara gaj*. The ceiling was reconstructed using Russian pine - there are 10 kilometres of wood in this ceiling. It is used as a mosque only during Nawruz. It is one of the most spectacular of all spaces; the interior is a forest of carvings and dark wood.

Each building has its "passport", or document file, which includes plans and elevations, old photos, a description of its physical state, past and present, and its restoration history, and any other pertinent information. All the buildings in

Ichan-Kala have been documented and drawn. The original portfolios are stored in the archives of the Institute of Restoration in Tashkent but copies of necessary documents are kept in the local Department of Protection of Monuments.

Design concepts

The buildings were still standing; minimal planning was required to keep the visual integrity of the Ichan-Kala intact.

The restoration programme concentrated on the major monuments of the town and the areas immediately around them. A few modern eye-sores that clashed with the historic image were brought down. The clean-cut and rather empty look of the Ichan-Kala is easy for tourists and photographers. The purity of the lines and the volumes of the buildings standing in a vacuum give the Ichan-Kala a theme-park look. The streets are easy to walk in, and there are a few shops that cater mostly to the tourist trade.

The buildings have been restored to their original forms, using traditional decorative features and motifs. Enough was preserved of each monument and its decorative treatment (glazed tiles, paintings, or carved brick) to be able to reconstruct the rest.

The streets and the pavements of Ichan-Kala are all paved, the former with asphalt, and the latter with poured concrete slabs. Open spaces around some of the monuments and mosques are paved with baked bricks. Paving has made it a more attractive place to walk in, and has also reduced the dust. Some trees have been planted in the squares and open areas; others can be seen in the courtyards of the private houses.

Materials and technology

The basic building material is baked brick. These are hand-made to order in a government factory in Khiva

that employs 150 people. They are of better quality than those of Bukhara. State building regulations require that buildings use reinforced concrete for load-bearing walls and portals, but the restoration project tries to use only traditional materials. An earth mortar, sealed on the outside with gypsum, is used; the mud plaster used on the fortification walls is mixed with straw. Cast cement is used for pavements, but large open areas, such as the square in front of the Kunya Ark, are paved with flat bricks.

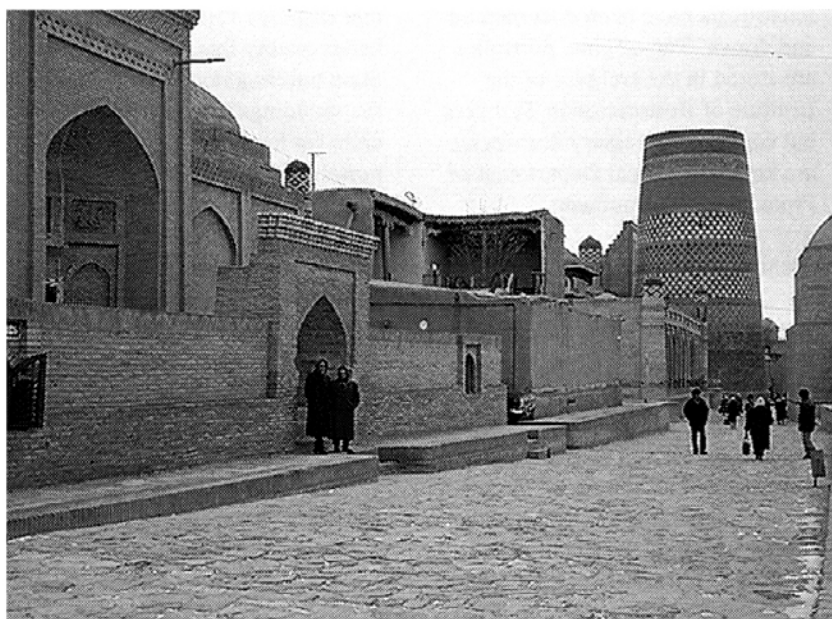
The material for reconstructing structural members of monuments is reinforced concrete. Standing walls are strengthened by implanting iron rods, and additions are mortared with cement. Traditionally, walls were

strengthened with beams cut from poplars; today, iron rods do that work. Wall surfaces are unplastered, the bricks acting as the decorative medium when carved or laid in differing patterns. Facades, portals, domes and interiors of mosques and madrasas are decorated with brick and/or glazed tile designs, such as the Mohammed Amin Khan Madrasa and the Pahlavan Mahmud, both dated to the 19th Century. Minarets and mausoleums are decorated with alternating bands of inscriptions and/or floral and geometric designs rendered in high relief in brick and glazed tiles; examples are the Seyyid Allaudin Mausoleum (1303), the Kalta Minar, Islam Khoja and the Djuma Mosque minarets. Numerous buildings have painted and glazed tile

*The minaret of
Islam Khoja
Mosque-Madrasa.
Built between
1908 and 1912*



View along a typical road through the old city leading to the Kalta Minar, glazed with blue tiles



walls; the private quarters in the Kunya Ark and the Tash Hawli palace of Allah Quli Khan, built in the 19th Century, offer superb examples of this decorative genre.

Construction technology is traditional in origin with new inclusions limited to materials such as cement and iron rods.

All the monuments and buildings of the Ichan-Kala are supplied with water and electricity from the municipality. Ten years ago, there was no running water or sewage system for Khiva; both have now been installed. The sewage system has double piping for extra protection, and it functions. At the same time, electricity was upgraded, and gas was piped into the city and Ichan-Kala. Funds were provided by the state. The modern sewage system and the piped water supply for the Ichan-Kala means that it suffers less from salt problems than does Bukhara.

The monuments are checked and maintained by the local Inspectorate of Protection for Monuments.

Origins of:

Technology

The technology is traditional and of a fairly simple kind - coursed bricks bonded with mortar. The buildings are generally low in profile with the exception of the tall minarets and the immense mass of the Kunya Ark.

Materials

Materials are traditional brick and mortar; new technology has brought

the addition of iron rods and reinforced concrete. Most supplies are provided by the Ministry of Culture in Tashkent, but the bricks and glazed tiles are manufactured locally in the government company that was established for that purpose in Khiva.

Labour force

The labour force is local, the specialised craftsmen or *ustas* usually belonging to a family with a long history in that craft.

Professionals

Many architects have worked on the monuments in the Ichan-Kala. They were/ are all employees of the Institute of Restoration in Tashkent.

Contractors, engineers and other specialists are supplied by the Ministry of Culture in Tashkent. The Municipality (Hukumiyat) of Khiva is involved in the infrastructure, roads, communications, gardens and landscaping of the town; it uses its own personnel and budget. Foreign consultants are rarely used, although

an exception was made for studying the salt problem in Bukhara.

Construction schedule and costs

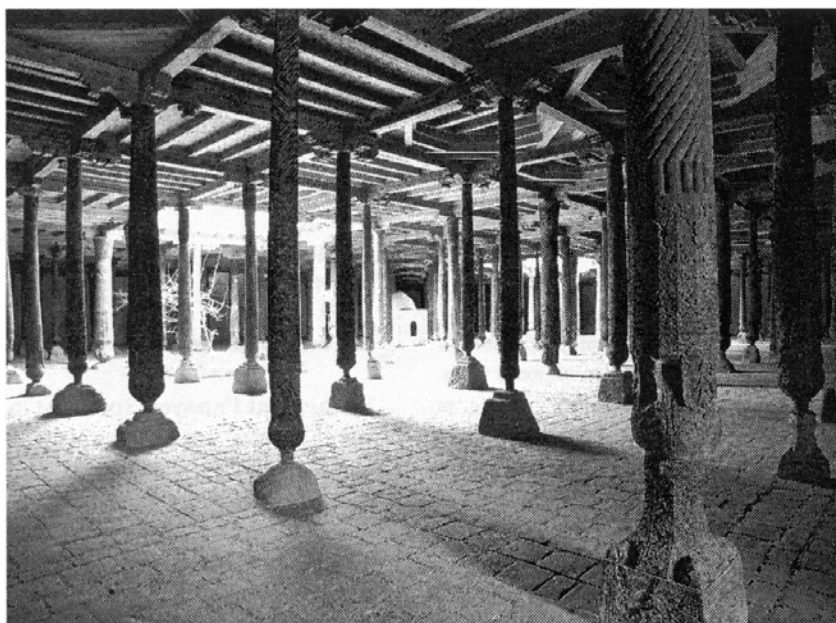
History of project

The restoration of the monuments of the Ichan-Kala has been in progress since the 1960's, and is ongoing. There are still a number of monuments that need to be restored. During 1995, work is concentrating on completing the restoration of the Ark Mosque (1657), and rebuilding and upgrading the interiors of the Kunya Ark - a huge undertaking. Plans are also being formulated to tackle the Tash Hawli Palace, which has terrible maintenance problems.

Costs and financing

In 1994, the budget for the Ichan-Kala was more than 3 million som; for 1995 it is 6.5 million som (the current official rate is 25 soms per

Inside the Djuma Mosque, built between 936 and 1718, are 213 individually carved wooden columns.



US dollar). Inflation runs at about 600%. The budget is provided by the Ministry of Culture and by the Municipality of Khiva and/or the Governorate of Khorezm. Private houses within the Ichan-Kala are restored and maintained by the owners, who are informed and advised by the Restoration Office on the special laws that govern the appearance of all buildings within its walls.

Comparative costs

No relevant figures are available.

Qualitative analysis of costs

One building can cost up to 2 million som to restore at current prices.

Maintenance costs

No cost figures for maintenance are available; presumably maintaining the monuments is part of the city and state budget.

Technical assessment

Functional assessment

The Ichan-Kala functions well as an open-air museum. It is frequented mostly by tourists, and by pilgrims to the Pahlavan Mahmud Mausoleum. Local inhabitants who live inside the Ichan-Kala can be seen walking or driving around, but their daily

shopping has to be done outside the walls. The bazaars and shopping areas in the trading domes of the Allah Quli Khan draw huge crowds, especially on market days, but the bazaars are outside the walls of the Ichan-Kala.

Climatic performance

The climatic performance of the monuments is good, although they can be freezingly cold. Ventilation is good, and lighting fixtures are fairly basic, but adequate. There are some ugly street lamps along the main east/west route.

Choice of materials and level of technology

The choice of materials is circumscribed by that used in the original buildings; new and intrusive materials are generally hidden from view. The level of technology is adequate to that of the craftsmen.

Maintenance

One problem in the Ichan-Kala is rising damp, and salts that enter the walls by the capillary action of saline ground water. It is not as serious in the Ichan-Kala as it is in Bukhara, but some monuments do show salt efflorescence. Salt attacks the walls, breaks down the surface of the bricks and mortar, and causes tiles to crack, peel and fall off the walls. It is a serious problem for Khiva, too. Landscaping is difficult - few trees can survive the high saline content of the local water. Reliable technical studies and reports suggest possible solutions, but these will require extra financing that the Uzbeki Government cannot afford.

There are a number of monuments that have not been restored, or were poorly restored in the 1960's and 70's, that need urgent maintenance. The Tash Hawli Palace is one such case, as the glazed tiles are literally flaking off the walls, and the

cement plaster that holds them in place is adding to the damage.

The Ichan-Kala is well maintained, and the buildings and streets are kept clean and neat. This neatness adds to its over-restored and little-inhabited appearance.

Design features

Walking down a street in the Ichan-Kala is like walking through a theme park, a museum town of the 19th Century beautifully captured in the physical sense; but it seems totally unreal. The Ichan-Kala is too pristine and one-dimensional. It is a charming but somewhat surrealistic experience to walk in and out of mosques and madrasas that have no function, into palaces that are empty and mausoleums that feature only the dead.

Users

The inhabitants of the Ichan-Kala have certainly benefited from its restoration. They have running water, a working sewage system, gas, electricity and paved streets; in fact, it must have created a revolution in their lives. Some of them work in the Ichan-Kala, but most work in the factory in Khiva; tourism employs about 500 people locally, and another 500 in Urgench. The shops inside the Ichan-Kala are run mostly by locals. The employees of the restoration project benefit directly; the others, like the 160 people who work in the brick factory, benefit indirectly. Khiva, the Ichan-Kala, and Urgench all profit from the tourists who come to visit, stay in the hotels, eat meals and buy the local crafts. The Ichan-Kala has provided a venue for the craftsmen and women: coppersmiths, felt-makers, and potters sell their wares on the streets or in their ateliers in the Talib Maksum Madrasa. Astrakhan hats and embroidered caps are sold in the

open squares. There are a few cafes that cater to the tourist trade.

Some monuments have been turned into museums: the Shirghazi Khan Madrasa and the Muhammad Rahim Khan Madrasa exhibit objects of the 19th Century. The Allah Quli Khan trade dome and caravanserai have been restored as shopping areas. They are thriving because they abut the open-air bazaars, newly built outside the eastern wall of the Ichan-Kala, which are frequented by many shoppers.

The Ichan-Kala does not have the bustle and liveliness of a living town.

User response

The response of clients and users is positive. People seem pleased with the restoration of the Ichan-Kala; no one appears worried about its rather surreal qualities. We went into a few houses and talked to the residents, who appear to be satisfied with (what appears to be) their somewhat constrained lives within the confines of the historical citadel.

Project personnel

The clients are the Governorate of Khorezm (Governor K. M. Khudaiberganovich was actively involved in the implementation of the programme from 1965-85) and the Municipality of Khiva. From the mid 1970's, the architects involved are the following:

In Tashkent:

**F. Ashrafi; R. Sharipov;
A. Rackmanov; B. Usmanov.**

In Khiva/Urgench:

Renat Ahmedov, Chief Architect for the province of Khorezm and responsible for the monuments in the towns of his region.

K. Yuldashovich Mat Karimov, the Chief Architect of Khiva.

Sheikh Nazar Mat Rasulov, Director of the Inspectorate of Restoration for Monuments.

Ismail Abdullayov, Inspector of Restoration.

Abdullah Abdu Rasulov, Director of the Ichan-Kala Museum and all its museums and monuments.

Among the many specialised craftsmen are:

Ibrahim Rajapov, master builder

Zarip Rajapov, son of the above, master builder

Atabeg Ismailov, stucco specialist

Shahmurat Panayev, specialist in wood-carving

Rustam Tahirov, specialist in glazed tiles, who works in the government factory overseeing the finished products.

All the above have worked on many of the projects in the Ichan-Kala; they have other talents besides their specialities.

***Selma al-Radi
March 1995***